eurofins | Spectrum Analytical

☑ Final Report
☐ Revised Report

Report Date:
05-Jun-17 17:41

Laboratory Report
SC35143

Gulf Oil L.P.
281 Eastern Avenue
Chelsea, MA 02150
Attn: Andrew P. Adams

Project: Gulf Terminal - Chelsea, MA
Project #: Gulf Chelsea

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Rebecca Merz
Quality Services Manager

Rebecca Merz

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 8 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC35143

Project: Gulf Terminal - Chelsea, MA

Project Number: Gulf Chelsea

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC35143-01	Outfall 003	Surface Water	24-May-17 11:00	26-May-17 17:00

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

Analyses for Total Hardness, pH, and Total Residual Chlorine fall under the state of Pennsylvania code Chapter 252.6 accreditation by rule.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	Gulf Oil L.P.
Project:	Gulf Terminal - Chelsea, MA / Gulf Chelsea
Work Order:	SC35143
Sample(s) received on:	5/26/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC35143-01 **Client ID:** Outfall 003

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Suspended Solids	8.2		0.5	mg/l	SM2540D (11)

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Outfall 003 SC35143-01	Gulf Chelsea	Surface Water	24-May-17 11:00	26-May-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
General Chemistry Parameters													
	pH	**7.25**	pH	pH Units			1	ASTM D 1293-99B	26-May-17 17:27	02-Jun-17 13:39	BD	1708871	X
	Total Suspended Solids	**8.2**		mg/l	0.5	0.2	1	SM2540D (11)	30-May-17	02-Jun-17	CMB	1708911	X

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
ASTM D 1293-99B										
Batch 1708871 - General Preparation										
Duplicate (1708871-DUP1)			**Source: SC35143-01**			Prepared: 26-May-17 Analyzed: 02-Jun-17				
pH	**7.26**		pH Units			7.25			0.1	5
Reference (1708871-SRM1)						Prepared: 26-May-17 Analyzed: 02-Jun-17				
pH	**5.99**		pH Units		6.00		100	97.5-102.5		
Reference (1708871-SRM2)						Prepared: 26-May-17 Analyzed: 02-Jun-17				
pH	**6.01**		pH Units		6.00		100	97.5-102.5		
SM2540D (11)										
Batch 1708911 - General Preparation										
Blank (1708911-BLK1)						Prepared: 30-May-17 Analyzed: 02-Jun-17				
Total Suspended Solids	< 0.5		mg/l	0.5						
LCS (1708911-BS1)						Prepared: 30-May-17 Analyzed: 02-Jun-17				
Total Suspended Solids	**98.0**		mg/l	10.0	100		98	90-110		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC35143 ✓

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☑ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: Andrew Adams
Gulf Oil LP
281 Eastern Ave
Chelsea, MA 02150
Telephone #: 617.884.5980
Project Mgr: Andrew Adams

Invoice To: Christopher Gill
Gulf Oil LP
80 William St, Suite 400
Wellesley, MA 02481-3705
P.O No.: _____ Quote/RQN: _____

Project No: Gulf Chelsea
Site Name: Gulf Chelsea Terminal
Location: 281 Eastern Ave, Chelsea State: MA
Sampler(s): Andrew Adams

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= none 12= _____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: TSS SPH (AA)	Check if chlorinated
SC35143 01	Outfall 003	5-24-17	1100	G	SW				1	X	☐
											☐
											☐
											☐
											☐
											☐
											☐
											☐
											☐
											☐

List Preservative Code below: 11

QA/QC Reporting Notes:
* additional charges may apply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
- ☑ Standard ☐ No QC
- ☐ DQA*
- ☐ ASP A* ☐ ASP B*
- ☐ NJ Reduced* ☐ NJ Full*
- ☐ Tier II* ☐ Tier IV*
- ☐ Other: _____

State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	5-26-17	1150
[signature]	[signature]	5/26/17	1700

Temp °C: Observed 2.1 / Correction Factor 0 / Corrected 2.1 / IR ID # 01

☐ EDD format: _____
☑ E-mail to: aadams@gulfoil.com, cgill@gulfoil.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1708871

General Chemistry Parameters

1708871-DUP1
1708871-SRM1
1708871-SRM2
SC35143-01 (Outfall 003)

1708911

General Chemistry Parameters

1708911-BLK1
1708911-BS1
SC35143-01 (Outfall 003)